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COLUMBIA BASIN

JOINT INVESTIGATIONS

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CHARACTER AND SCOPE



UNITED STATES

DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION



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SHELVE IN
GOVERNMENT
DOCUMENTS

COLUMBIA BASIN JOINT INVESTIGATIONS

Character and Scope



United States
Department of the Interior
Harold L. Ickes, Secretary
Bureau of Reclamation
John C. Page, Commissioner

41-51467

CHARACTER AND SCOPE of Columbia Basin Joint Investigations

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JOINT INVESTIGATIONS

Columbia Basin Irrigation Project

CHARACTER AND SCOPE OF INVESTIGATIONS

The Columbia Basin Irrigation project is expected to transform a vast area of dry land, much of it unsettled and unproductive, into a well-watered, compactly settled, and highly productive region. With full development the project should attain a total population, rural and urban, of 350,000 to 400,000.

The Bureau of Reclamation has recognized from the inception of the project that the task of the Bureau will not be completed when it has built the reservoirs, pumping plants, canals, laterals, and other structures by which life-giving water for irrigation can be conveyed from the Columbia River to the thirsty lands of the project area. Its task will not be completed until the project has been made in truth a land of new opportunity for the multitudes who will there seek economic security and social welfare. If the project is to be not merely a land of hope but also a land of attainable hopes, within reason, for people of industry and integrity, many problems must be solved before the advent of settlers. A pattern of successful life, rural life and urban life alike, cannot develop in the project by chance. Individual initiative will not suffice.

The tragic stories of hundreds of pioneers who individually invaded the more arid western part of the project area during a short period of supernormal rainfall near the turn of the century and there unwisely attempted dry-land farming must not be matched in the future by stories of settlers who attempted irrigation farming in the same area under conditions and in ways that precluded success. The availability of an adequate supply of water for irrigation will not alone insure to the capable settler reasonable prospects of success. Some settlers on the project inevitably will fail, no matter how carefully a judicious program of settler selection may be administered, no matter how favorable may be the conditions of life. The great majority of the settlers will succeed under conditions which it is possible and reasonable to establish in their behalf. The Bureau of Reclamation proposes that those conditions shall be established.

How many acres will a competent farmer need to earn a suitable living for an averaged-sized family on each of the several classes of land to be irrigated within the project, or on one of the numerous combinations of those classes? What type of farm economy should he practice? How can he best develop his land initially and later maintain its productivity? To what transport and market facilities will he need to adjust his activities? How much irrigation water per acre per year will he need, in view of the character of the soils he will

till and the crops he will grow? How may he obtain maximum utility from the water? How may he obtain reasonable financial assistance in providing necessary fixed improvements on his land? How may he reduce his commitments and expenditures through cooperation with neighbor farmers, or otherwise, and have essential equipments and suitable conveniences and comforts? At what rate may he reasonably hope to raise his level of living? How can he best be helped to help himself?

What practicable and equitable means may be used to insure proper land use, as determined in advance of settlement? What industries can advantageously be located within the project, especially industries that will utilize farm products? Where should the industrial plants be located? What types of plants and how many plants of each type should be established in the successive irrigation blocks? How may the optimum number best be encouraged, and how may overdevelopment most effectively be discouraged? Where will new villages be needed? How may village functions and farm life best be integrated to their mutual and maximum advantage? How may communities and local governmental units best anticipate and meet their social needs?

The foregoing questions merely illustrate the varied kinds of questions that call insistently for answers. The extent to which these questions and the host of other pertinent questions are answered correctly by the individuals, groups, and governmental agencies concerned with them will largely determine the measure of success which awaits the project, the largest and most complex of its kind in the history of the Nation. Faith in the future of the project, however great, is not enough. Wishful conjecture is hazardous. Unwise action today may prevent, impede, or restrict wise action tomorrow. Effective planning for the settlement and development of the project must be based on adequate and reliable data of all relevant kinds.

Recognizing the complexity and magnitude of the investigations needed to provide a sound plan and program for the settlement and development of the project, the Bureau of Reclamation sought the assistance of many agencies and organizations, Federal, State, regional and local, on matters falling within the domains of their special interest and competency. In every instance these agencies and organizations promptly and enthusiastically agreed to participate as requested in the proposed cooperative surveys and studies.

The general plan of the "Joint Investigations, Columbia Basin Irrigation project" is set forth in the remainder of this bulletin. Later bulletins will present reports on individual problems.

GENERAL PLAN OF INVESTIGATIONS

The objects of the joint investigations are to provide a general plan for the development and settlement of the Columbia Basin area as a whole, and detailed plans for areas to be irrigated relatively soon.

The planning program has been superimposed on the usual topographic surveys and land classifications of the Bureau of Reclamation which here serve as a base.

There follows an outline of the plan for the joint investigations in which 28 separate problems in addition to the basic engineering surveys are set up for study. For convenience, the problems of the investigation are divided into 16 divisions. The basic surveys, land classifications and appraisals together with a temperature recording program constitute the first division. The second division is designed to provide information on applicable types of farm economy. The problems under this division seek information concerning types of crops, crop combinations, and crop rotations on other northwestern irrigation projects; the types of agricultural programs best suited to the project area; and practicable and equitable means, if any, to insure proper land use as determined.

Two investigations are included in the third division to determine the water requirements of the irrigable lands for the crop and land use programs recommended, and a study of ways of preventing excessive use of water.

The size of farm units is the subject of two studies in the next division, the first being a study designed to determine the optimum size of farm units, having in mind the type of crops and crop programs which are recommended, and the second designed to determine whether there is need for special "labor units" of small size to accommodate part-time farmers or part-time laborers.

Another division poses additional questions. There are three problems on the lay-out and equipment of farms: One, to delimit the sections where it may be desirable to lay out the farms in adjustment to topography; two, to determine feasible means to help insure an adequate standard of living and to minimize the financial commitments of needy families in providing suitable and essential improvements; and, three, the advantages, economic and social, in farm lay-out and farm work which might result from concentration of settlers in small communities or from grouping farmhouses on corners of the farms.

Four problems related to the allocation of costs and to repayment of costs are: A study of the allocation of the costs of Grand Coulee Dam and the primary irrigation works; how can equitable payments toward the cost of the primary irrigation works best be secured directly or indirectly from nonrural settlers; is it desirable and practicable to assign different repayment charges against lands of different classifications; and what are the best means of extending financial aid in conservatively adequate amounts to needy settlers within the project area?

An investigation of methods for establishing the requisite control of privately owned lands, whether by Federal purchase or some other

means, and a similar study related to the State, county, and railroad lands are included.

To estimate in the light of all relevant factors, the annual rate at which lands should be brought in during the first few years after water becomes available is the assignment given to another group of investigators.

Division 9 is concerned with villages, and its problem is to determine the optimum number of new villages for the project area and their most advantageous placement.

Three problems related to roads and other transportation facilities are included, the first being to plan desirable additions to the road net; the second being to plan desirable additions to railroad facilities; and the third being a study of the significance to the project area of the Columbia River as a commercial route.

A study is being made of underground waters for the purpose of determining the best source of domestic water within the project area.

Division 12 contemplates a study of rural and village electrification.

Division 13 deals with manufactures, and its problem is to define the opportunities for village and neighborhood industries in the parts of the project apt to be settled relatively soon and to determine what steps should be taken to promote the development of industries of promise.

Recreational resources and needs are approached in an effort to locate and plan the lay-out and improvement of rural parks and recreational grounds within the project area, and to formulate plans to promote the recreational use of the great reservoir now forming above Grand Coulee Dam.

Division 15 involves rural community centers, and is designed to plan the location and, insofar as practicable, the improvement of sites for rural schools, churches, community halls, market centers, athletic fields, and the like.

The last division encompasses a study of governmental organization and public works programming and financing, the problem being to develop the most advantageous pattern of local governmental units to meet prospective public needs, having in mind the need to program and finance the public improvements in such a way as to eliminate or minimize the possibility of an excessive tax burden.

THE PARTICIPANTS

The names and addresses of those participating in the joint investigations are listed under each problem in which they have a responsibility, either as an investigator or an adviser.

In various instances several agencies or individuals are listed in connection with a particular investigation. In every such instance it is

understood that the agency or individual first named in the list of investigators will act as leader of the group. Leadership involves assumption of the initiative and the major responsibility (a) for developing a suitable plan for the requisite studies, including determination of the method or methods of investigation to be employed and the allocation of different phases of the undertaking to members of the cooperating group; (b) for effective collaboration with other groups dealing with closely related problems (an essential procedure that will be facilitated by the interlocking membership of various investigation groups); (c) for timing the work with respect to its completion upon the date indicated in this outline or, if not indicated, to be agreed upon by the investigators, the Planning Consultant and the Chief of Information; and (d) for the preparation of a report on the results of the investigation, setting forth the findings and recommendations, with the requisite supporting factual data, evidence, and opinions. Emphasis of the responsibilities of leadership does not, of course, imply either a lack of responsibility on the part of other agencies and individuals participating in a given investigation or a failure to appreciate the importance of the contributions they will make.

It is understood that the group investigating each problem will be free to seek (*and should seek*) data, opinions, and advice from any agency or individual not listed in the following outline that may be thought to be in a position to render substantial assistance. It is impossible at the outset, before the more complicated problems have been broken down into their multifarious aspects by those who will investigate them, to list all agencies and individuals whose assistance may later be urgently needed.

Dr. E. N. Torbert, with headquarters at Ephrata, Wash., has been appointed field coordinator for the joint investigations. He acts as a full-time assistant to Planning Consultant Harlan H. Barrows and Chief of Information William E. Warne, who represent the Bureau of Reclamation in planning and promoting the joint investigations. Dr. Torbert's counsel and aid are available to all participants in the investigations. It is his chief duty to facilitate in all practicable ways close cooperation among the members of particular investigation groups and among the leaders of different groups concerned with interdependent problems. He is available at important group and intergroup conferences in the area. He circulates information and memoranda of general interest and utility to participants in the investigations. He helps to furnish information to the public of the region, through the information officer of the project, on the nature and progress of the investigations.

Mr. Marion Clawson of the Bureau of Agricultural Economics has been designated by the Secretary of Agriculture as the field representative of that Department for the joint investigations. He has

the general responsibility of coordinating the phases of the joint investigations which have been assigned to bureaus of the Department of Agriculture. Mr. Clawson has established his headquarters at 315 Welch Building, Spokane, Wash.

A board of review may be appointed later by the Commissioner, Bureau of Reclamation, to study the reports on various of the investigations, to appraise plans of settlement and development based on the reports, and to recommend appropriate action programs for carrying out accepted proposals.

DIVISIONS, PROBLEMS AND INVESTIGATIONS

I. BASIC SURVEYS

Basic surveys comprise the topographic survey, the land classification survey, the localization of requisite works for the gravity and supplemental pumping systems (mains, laterals, pumping plants, etc.), determination of the feasibility of direct pumping from the Columbia River or Snake River (or both), determination of the requirements with respect to main drainage outlets, and the land-appraisal survey (in accordance with the provisions of the Anti-Speculation Act). These surveys and studies are being made by the Bureau of Reclamation. The lands have been appraised by a special Land Appraisal Board.

The topographic survey was completed in April 1941, the land-classification survey was completed in August, and the appraisal of land shortly thereafter. As the work progresses, field maps and data in hand will be available in the office of the Bureau of Reclamation at Ephrata, Wash., to those participating in other investigations.

II. TYPES OF FARM ECONOMY.

The objective of the investigations of farm economy is to determine, in general, the best types of irrigation farming for different parts of the project area and in particular the best types for the northern part, where the earlier units served by gravity and the earlier lands served by supplemental pumping undoubtedly will be, and the southern end, where lands possibly may be served relatively soon by pumping directly from one or both of the rivers.

It is understood, of course, that unforeseeable developments and conditions may affect the agricultural utility of parts of the project that probably cannot be brought in advantageously for 15, 20, or more years. Lessons learned from experience in farm economy and in other matters on project units that are opened to settlement relatively early may prove useful in the modification or refinement of initial plans for later units.

Problem No. 1.—On other northwestern irrigation projects where basic conditions are similar to those which will be encountered on the earlier units of the Columbia Basin project, what types of farm economy (including crops and crop programs) have been successful? Most successful? Unsuccessful, if any?

Investigator:

Bureau of Reclamation:

Mr. R. J. Newell,
Construction Engineer,
Bureau of Reclamation, Boise, Idaho.

Adviser (on methodology):

Bureau of Agricultural Economics:

Mr. Sherman E. Johnson,
Bureau of Agricultural Economics, Department of Agriculture,
Washington, D. C.

Report submitted: April 16, 1941.

NOTE.—By "success" in irrigation farming is meant, in principle, the attainment of a suitable standard of living. The definition of what constitutes a suitable standard of living, determination of how it may best be measured, and the development of means by which the standards of living on different projects may be compared satisfactorily, present difficult antecedent problems.

Problem No. 2.—What types of farm economy are best suited to the project area (particularly its northernmost and southernmost parts) in view of the soils, climate, topography, competitive and complementary relationships with other irrigated and nonirrigated areas of the Pacific Northwest, foreseeable market conditions and opportunities, transportation facilities (existent and prospective), freight rates, the possibility of effective integration of some phases of farming with village or neighborhood industries of promise, and other relevant factors?

Investigators:

Washington State College and Experiment Station:

Prof. B. H. Pubols,

Head of Department of Farm Management and Agricultural
Economics, State College of Washington, Pullman, Wash.

Dr. E. F. Dummeier,

Agricultural Economist, State College of Washington, Pullman,
Wash.

Prof. Howard Hackedorn,

Head of the Department of Animal Husbandry, State College
of Washington, Pullman, Wash.

Prof. E. V. Ellington,

Head of the Department of Dairy Husbandry,
State College of Washington, Pullman, Wash.

Prof. E. G. Schafer,

Head of the Department of Agronomy,
State College of Washington, Pullman, Wash.

Dr. E. L. Overholser,

Head of Department of Horticulture,
State College of Washington, Pullman, Wash.

Investigators—Continued.

Washington State College and Experiment Station—Continued.

Prof. L. J. Smith,

Head of the Department of Agricultural Engineering,
State College of Washington, Pullman, Wash.

Prof. J. S. Carver,

Head of Department of Poultry Husbandry,
State College of Washington, Pullman, Wash.

Dr. L. C. Wheeting,

Research Professor of Soils,
State College of Washington, Pullman, Wash.

Mr. H. P. Singleton,

Superintendent, Irrigation Branch Station,
Prosser, Wash.

Bureau of Agricultural Economics:

Mr. Sherman E. Johnson,

Bureau of Agricultural Economics, Department of Agriculture,
Washington, D. C.

Dr. Walter A. Fuhrman,

Bureau of Agricultural Economics, State College of Washington,
Pullman, Wash.

Pacific Northwest Regional Planning Commission:

Maj. R. F. Bessey,

Counselor,
National Resources Planning Board, Federal Courthouse,
Portland, Oreg.

Bureau of Reclamation:

Mr. R. J. Newell,

Construction Engineer,
Bureau of Reclamation, Boise, Idaho.

Advisers (on markets, transportation facilities and costs, etc.):

Representatives of railroads serving the area:

Mr. Paul T. Wilson,

Chicago, Milwaukee, St. Paul & Pacific Ry., Seattle, Wash.

Mr. E. B. Duncan,

Great Northern Railway Co., Seattle, Wash.

Mr. W. P. Stapleton,

Northern Pacific Railway Co., Seattle, Wash.

Mr. Kenneth C. Miller,

Spokane, Portland & Seattle Railway System, Portland, Oreg.

Mr. Joseph W. Jarvis,

Union Pacific Railroad System, Omaha, Nebr.

Bonneville Administration:

Mr. Ivan Bloch,

Market Development Section, The Bonneville Power Administration, Portland, Oreg.

Report due: July 1, 1941.

Problem No. 3.—What practicable and equitable means, if any, may be used to insure proper land use, as determined? This inquiry should include, but not be restricted to, a study of the suitability and efficacy of cooperative marketing organizations, soil conservation districts, and county zoning.

Investigators:

Washington State Planning Council:

Mr. P. Hetherton,

Executive Officer,

State Planning Council, Old Capitol Building, Olympia, Wash.

Bureau of Reclamation:

Mr. R. J. Newell,

Construction Engineer,

Bureau of Reclamation, Boise, Idaho.

Soil Conservation Service:

Mr. Austin Patrick,

Soil Conservation Service, Washington, D. C.

University of Washington:

Mr. Alfred Harsch,

University of Washington, Seattle, Wash.

Mr. John B. Sholley,

University of Washington, Seattle, Wash.

Report due: March 1, 1941.

III. WATER REQUIREMENTS

Problem No. 4.—What are the normal water requirements for the crop and land-use programs recommended by the investigators of Problem No. 2 for different parts of the project area?

Investigators:

Bureau of Reclamation:

Mr. R. J. Newell,

Construction Engineer,

Bureau of Reclamation, Boise, Idaho.

Soil Conservation Service:

Mr. Austin Patrick,

Soil Conservation Service, Washington, D. C.

Bureau of Plant Industry:

Mr. Carl S. Scofield,

Bureau of Plant Industry, Department of Agriculture, Washington, D. C.

Washington State College and Experiment Station:

Mr. H. P. Singleton,

Superintendent,

Irrigation Station, Prosser, Wash.

Mr. Harry G. Nickle,

Agricultural Experiment Station, Prosser, Wash.

Mr. L. C. Wheeting,

Research Professor of Soils,

State College of Washington, Pullman, Wash.

Report due: August 1, 1941.

Problem No. 5.—What is the most practicable way of preventing excessive use of water?

Investigators:

Bureau of Reclamation:

Mr. H. A. Parker,

Irrigation Engineer,

Bureau of Reclamation, Ephrata, Wash.

Investigators—Continued.

University of Washington:

Mr. R. B. Van Horn,

University of Washington, Seattle, Wash.

Adviser:

Soil Conservation Service:

Mr. Harry G. Ade,

Soil Conservation Service, Washington, D. C.

Report submitted December 9, 1940.

IV. SIZE OF FARM UNITS

Problem No. 6.—What is the optimum size of farm units for the type or types of farm economy recommended by the investigators of Problem No. 2? Should there be more elasticity in fixing the maximum size of farm units, particularly those consisting chiefly of "Class 3 land," than present law permits? If so, what changes are desirable? What practicable measures could be adopted for the *retention* of units of optimum size, once they are established?

Investigators:

Bureau of Reclamation:

Mr. R. J. Newell,

Construction Engineer, Bureau of Reclamation, Boise, Idaho.

Washington State College:

Prof. B. H. Pubols,

Head of Department of Farm Management and Agricultural Economics,

State College of Washington, Pullman, Wash.

Bureau of Agricultural Economics:

Mr. Sherman E. Johnson,

Bureau of Agricultural Economics, Department of Agriculture, Washington, D. C.

Report due: October 1, 1941.

NOTE.—It is possible, perhaps probable, that final conclusions on this problem must await the results of experience by settlers under the present law on some of the earlier units.

Problem No. 7.—Is there need for provision on areas to be settled relatively soon of special land units of *small size* to accommodate seasonal laborers, workers desiring plots for residence and part of their subsistence, and the like? If so, what proportion of the area of the earlier project units should be allocated to them? Where should they be located? How much land should individual plots include?

Investigators:

Bureau of Reclamation:

Mr. William E. Warne,

Chief, Division of Information,

Bureau of Reclamation, Washington, D. C.

Washington State Planning Council:

Mr. B. H. Kizer,

Chairman,

Washington State Planning Council, Spokane, Wash.

Investigators—Continued.

Pacific Northwest Regional Planning Commission:

Maj. R. F. Bessey,

Counselor,

National Resources Planning Board, Federal Courthouse, Portland, Oreg.

Advisers:

Washington State College:

Prof. B. H. Pubols,

Head of Department of Farm Management and Agricultural Economics,

State College of Washington, Pullman, Wash.

Farm Security Administration:

Mr. E. G. Arnold,

Farm Security Administration, Washington, D. C.

Bureau of Agricultural Economics:

Dr. Carl C. Taylor,

Bureau of Agricultural Economics, Department of Agriculture, Washington, D. C.

Report due: As soon as practicable; but not later than December 31, 1941.

V. LAY-OUT AND EQUIPMENT OF FARMS

It is unanimously agreed by all persons and agencies consulted (*a*) that in the areas of uneven surface the land to be irrigated should be subdivided into farms in conformity with topography and therefore with the pattern of canals, laterals, drains, and the like, rather than with conventional property lines, and (*b*) that a policy should be adopted which envisages planning to meet initially only *essential minimum requirements* in farm equipment and to do so at lowest practicable cost to the settler.

Problem No. 8.—To delimit the sections within which it is desirable that farms be laid out in adjustment to topography and to topographically controlled features.

Investigator:

Bureau of Reclamation:

Mr. H. A. Parker,

Irrigation Engineer,

Bureau of Reclamation, Ephrata, Wash.

Adviser:

Soil Conservation Service:

Mr. Harry G. Ade,

Assistant Regional Conservator,

Soil Conservation Service, Spokane, Wash.

Report submitted January 28, 1941.

Problem No. 9.—What feasible means could be adopted or created (*a*) to help insure an adequate level of living, and (*b*) to minimize the financial commitments of needy settlers in providing *suitable* and *essential* improvements?

Essential improvements include, of course, land leveling, farm ditches, houses, stock, wells or other sources of water for domestic use

and for stock, and implements. Means of minimizing the initial investment in them might include such diversified aids as heavy leveling on a large scale; acquisition by cooperative organizations of heavy machinery, for use at cost by member farmers; the design of inexpensive houses of materials and styles suited to the climate and the mode of life involved, houses to the first units of which harmonious additions could later be made by the owners; facilities for purchase of building materials at low unit cost; provisions to pipe water under pressure from a single well to the common corners of several farm units at or near which the buildings of the group of farms might be clustered conveniently to effectuate various economies and conveniences; and procurement at cost from the Clarke-McNary nursery at Pullman or from other nurseries of trees and shrubs for the homesteads.

Investigators:

Washington State Planning Council:

Mr. P. Hetherton,
Executive Officer,
State Planning Council, Old Capitol Building, Olympia, Wash.

Bureau of Reclamation:

Mr. H. A. Parker,
Irrigation Engineer,
Bureau of Reclamation, Ephrata, Wash.

Federal Housing Administration:

Mr. Clark R. Jackson,
State Director,
Federal Housing Administration, 837 Exchange Building,
Seattle, Wash.

United States Housing Authority:

Mr. Langdon Post,
Regional Director,
United States Housing Authority, Humboldt Bank Bldg., San
Francisco, Calif.

Miss Catherine Bauer,
United States Housing Authority, 2632 B Hyde Street, San
Francisco, Calif.

Farm Credit Administration:

Dr. E. C. Johnson,
Farm Credit Administration, Washington, D. C.

Dr. O. H. Maughan,
Director of Research,
Farm Credit Administration, Spokane, Wash.

Farm Security Administration:

Mr. E. G. Arnold,
Farm Security Administration, Washington, D. C.

Washington State College:

Prof. L. J. Smith,
Head of the Department of Agricultural Engineering, State
College of Washington, Pullman, Wash.

Investigators—Continued.

Washington State College—Continued.

Prof. Stanley A. Smith,

Head of the Department of Architectural Engineering, State
College of Washington, Pullman, Wash.

Prof. E. H. Steffan,

Head of the Department of Forestry and Range Management,
State College of Washington, Pullman, Wash.

Mr. Stanley E. Wadsworth,

Instructor in Landscape Gardening and Floriculture, State Col-
lege of Washington, Pullman, Wash.

Bureau of Agricultural Economics:

Dr. Carl C. Taylor,

Bureau of Agricultural Economics,
Department of Agriculture, Washington, D. C.

University of Washington:

Prof. H. B. Preston,

University of Washington, Seattle, Wash.

Prof. W. L. Shattuck,

University of Washington, Seattle, Wash.

Prof. J. F. Steiner,

University of Washington, Seattle, Wash.

Prof. H. Woolston,

University of Washington, Seattle, Wash.

Report due: Some phases of this problem, readily separable, can be solved comparatively soon, as, for example, the study of heavy-leveling and perhaps the design of inexpensive extensible farm houses. In such instances, separate reports should be made as soon as practicable, and the full report will be due June 30, 1941.

Problem No. 10.—What advantages, economic and social, and what disadvantages, if any, in farm lay-out and farm work might result from the concentration of settlers in small communities or nuclear hamlets? Should experiments be made on some of the earlier project units with such farm community centers?

Investigators:

Bureau of Agricultural Economics:

Dr. Carl C. Taylor,

Bureau of Agricultural Economics, Department of Agriculture,
Washington, D. C.

Mr. Sherman E. Johnson,

Bureau of Agricultural Economics, Department of Agriculture,
Washington, D. C.

Rural Electrification Administration:

Mr. Harry Slattery,

Administrator,
Rural Electrification Administration, 2000 Massachusetts Ave-
nue, Washington, D. C.

Washington State Planning Council:

Mr. P. Hetherton,

Executive Officer,
State Planning Council, Old Capitol Building, Olympia, Wash.

Investigators—Continued.

Washington State College:

Dr. E. F. Dummeier,

Agricultural Economist,

State College of Washington, Pullman, Wash.

Dr. Paul H. Landis,

Associate Rural Sociologist and Head of Division of Rural Sociology,

State College of Washington, Pullman, Wash.

Washington State Department of Health:

Donald G. Evans, M. D.,

State Director of Health, Seattle, Wash.

Bureau of Reclamation:

Mr. R. J. Newell,

Construction Engineer, Bureau of Reclamation, Boise, Idaho.

Farm Security Administration:

Mr. E. G. Arnold,

Farm Security Administration, Washington, D. C.

Report due: October 1, 1941.

VI. ALLOCATION OF COSTS AND REPAYMENTS

Problem No. 11.—What modifications, if any, should be made in present plans for the allocation of the cost of Grand Coulee Dam and of the primary irrigation works? Should power projects downstream, Columbia River navigation, flood control, general social benefits, and the like, be assigned an equitable share of the cost of the dam?

Investigators:

Bureau of Reclamation:

Mr. E. B. Debler,

Bureau of Reclamation, Denver, Colo.

Corps of Engineers:

Col. Richard Park,

Division Office, Corps of Engineers, Portland, Oreg.

Bonneville Administration:

Mr. Paul J. Raver,

Administrator,

Bonneville Power Administration, Portland, Oreg.

Report due: April 1, 1941.

Problem No. 12.—How many equitable payments toward the cost of the primary irrigation works best be secured, directly or indirectly, from nonrural settlers (villagers, etc.) in the project area?

Investigators:

Bureau of Reclamation:

Paul Lemargie,

Bureau of Reclamation, Coulee Dam, Wash.

Washington State Planning Council:

Mr. P. Hetherton,

Executive Officer,

State Planning Council, Old Capitol Building, Olympia, Wash.

Investigators—Continued.

Washington State Department of Conservation and Development:

Mr. Edward Davis,

Director,

Department of Conservation and Development, Olympia, Wash.

Report due: April 1, 1941.

NOTE.—For some years the proposition that nonagricultural settlers *should* make such payments has been affirmed by the Bureau of Reclamation and by certain other Federal agencies and recently it has been carried into effect in connection with the Colorado-Big Thompson project in Colorado.

Problem No. 13.—Is it desirable and practicable to assign different repayment charges against lands of classes 1, 2, and 3 (as these terms are used in the land-classification survey of the project area)? If so, what is the best method?

Investigator:

Bureau of Reclamation:

Mr. W. W. Johnston,

Bureau of Reclamation, Ephrata, Wash.

Advisers:

Washington State College:

Dr. E. F. Dummeier,

Agricultural Economist,

State College of Washington, Pullman, Wash.

Soil Conservation Service:

Mr. Austin Patrick,

Soil Conservation Service, Washington, D. C.

Bureau of Agricultural Economics:

Mr. M. M. Kelso,

Bureau of Agricultural Economics, Department of Agriculture,
Washington, D. C.

Farm Credit Administration:

Dr. O. H. Maughan,

Director of Research,

Farm Credit Administration, Spokane, Wash.

Report due: As soon as practicable; but not later than December 31, 1941.

Problem No. 14.—How may financial aid best be extended in conservatively adequate amounts to needy settlers beyond that which may accrue to them along the lines involved in problems numbered 9, 10, 11, 12, and 13?

Investigators:

Bureau of Reclamation:

Mr. H. H. Johnson,

Superintendent,

Bureau of Reclamation, Malta, Mont.

Farm Security Administration:

Mr. E. G. Arnold,

Farm Security Administration, Washington, D. C.

Farm Credit Administration:

Dr. E. C. Johnson,

Chief, Economic and Credit Research,

Farm Credit Administration, Washington, D. C.

Investigators—Continued.

Farm Credit Administration—Continued.

Dr. O. H. Maughan,
Director of Research,
Farm Credit Administration, Washington, D. C.

Washington State Department of Conservation and Development:

Mr. Edward Davis,
Director,
Department of Conservation and Development, Olympia, Wash.

Bureau of Agricultural Economics:

Dr. Carl C. Taylor,
Bureau of Agricultural Economics, Department of Agriculture,
Washington, D. C.

Adviser:

United States Housing Authority:

Mr. Winters Haydock,
Regional Director,
United States Housing Authority, 585 Bush Street, San Francisco, Calif.

Miss Catherine Bauer,
United States Housing Authority, 2632 B Hyde Street, San Francisco, Calif.

Report due: July 1, 1941.

NOTE.—Provision must be made for many poor or even destitute settlers. Both public opinion and official opinion demand it. The possibility of setting up a system under which settlers could pay over a relatively long period for the land and for essential improvements, as outlined in those problems under Division V, Lay-out and Equipment of Farms, much as they would repay water right charges under the Reclamation Project Act of 1939 should be explored thoroughly. It has been suggested that poor farmers *inexperienced* in irrigation enterprises be placed as tenants on lands owned by the Federal Government or by the State during an experimental period of a few years in which they could find out whether or not they can practice irrigation farming successfully. This suggestion merits careful consideration.

VII. CONTROL OF PROJECT LANDS

Effective control of project lands is regarded by all persons and agencies thus far consulted to be an indispensable prerequisite to the successful development and settlements of the project.

Problem No. 15.—What methods exist or could be developed for establishing the requisite control of privately owned lands? What are the advantages and disadvantages of each method? What method, all relevant factors considered, would be best? What policy or policies should be adopted with respect to the administration or disposal of lands brought under effective control?

Investigators:

Bureau of Reclamation:

Mr. B. E. Stoutemyer,
District Counsel,
Bureau of Reclamation, Portland, Oreg.

Investigators—Continued.

Bureau of Reclamation—Continued.

Mr. Fred Cunningham,

Old National Bank Building, Spokane, Wash.

Washington State Planning Council:

Mr. B. H. Kizer,

Chairman,

Washington State Planning Council, Spokane, Wash.

Final report submitted April 25, 1941.

NOTE.—Among possible methods are Federal acquisition of title, State acquisition of title, joint Federal-State acquisition of title, and acquisition of title by an appropriate public or quasi-public corporation. In theory, lands purchased through the use of any such method, whether farm lands or village lands, could later be sold or leased (for definite periods or for indeterminate periods) as might be found best in particular instances and areas.

Problem No. 16.—How may the requisite control of State lands, county lands, and railroad lands best be secured?

Investigators:

Washington State Department of Conservation and Development:

Mr. Edward Davis,

Director,

Department of Conservation and Development, Olympia, Wash.

Washington State Land Commission:

Mr. Jack Taylor,

Washington State Land Commissioner, Olympia, Wash.

Bureau of Reclamation:

Mr. B. E. Stoutemyer,

District Counsel,

Bureau of Reclamation, Portland, Oreg.

Northern Pacific Railway Co.:

Mr. W. E. Holt,

Northern Pacific Railway Co., Seattle, Wash.

Report due: March 15, 1941.

VIII. RATE OF DEVELOPMENT.

The optimum rate at which project units can be developed and opened to settlement following the availability of water for the initial units will be affected not only by such primary factors as the size of Congressional appropriations for developmental work, the need for land, and the requirements of orderly and economical development, but also by various secondary factors. The success of the project is the chief end to be sought. Its attainment will be promoted by balanced development and systematic settlement at a conservative, unhurried rate. Development should not be geared primarily to the present demand for land by needy migrants. The entire project, if open today to occupation, could accommodate only a small part of such people currently seeking land on the Pacific coast. The demand for land may fluctuate greatly up or down in a few years. Searching consideration should be given to avoidance of serious disturbance to

the agricultural structure of other parts of the Northwest and to prospective market demands for products that are found suitable for the project area (problems No. 1 and No. 2). Everyone who has been consulted holds the opinion that the rate at which project lands are opened to settlement during the first few years should not be rapid and that the lands so opened should be preponderantly of high grade. The rate adopted for early years may be altered if experience makes it desirable.

Problem No. 17.—To estimate, in the light of all relevant factors, the annual rate at which lands should be brought in during the first few years (six, perhaps) after water becomes available.

Investigators and advisers:

Bureau of Reclamation:

Mr. H. A. Parker,
Irrigation Engineer,
Bureau of Reclamation, Ephrata, Wash.

Washington State Planning Council:

Mr. P. Hetherton,
Executive Officer,
Washington State Planning Council, Old Capitol Building,
Olympia, Wash.

Pacific Northwest Regional Planning Commission:

Maj. R. F. Bessey,
Counselor,
National Resources Planning Board, Federal Courthouse, Portland, Oreg.

Directors, Columbia Basin Irrigation Districts:

East Columbia Basin Irrigation District:

Mr. Don Damon,
Director and President,
Cunningham, Wash.

Mr. C. H. Brittenham,
Secretary and Attorney,
Lind, Wash.

Mr. Gus Olander,
Director,
Wheeler, Wash.

Mr. John Getzinger,
Director,
Warden, Wash.

Mr. J. B. Finkbeiner,
Director,
Othello, Wash.

Mr. David Phillips,
Director,
Lind, Wash.

Quincy-Columbia Basin Irrigation District:

Mr. J. A. Weber,
Director and President,
Quincy, Wash.

Investigators and advisers—Continued.

Directors, Columbia Basin Irrigation Districts—Continued.

Quincy-Columbia Basin Irrigation Districts—Continued.

Mr. E. E. Huffman,
Director and Vice President,
Quincy, Wash.

Mr. James O'Sullivan,
Secretary,
Ephrata, Wash.

Mr. Matt De Shaw,
Director,
Winchester, Wash.

Mr. C. A. Kennedy,
Director,
Stratford, Wash.

Mr. V. E. Bjorklund,
Director,
Ephrata, Wash.

Mr. William Clapp,
Attorney,
Ephrata, Wash.

South Columbia Basin Irrigation District:

Mr. D. W. Neff,
Director and President,
Pasco, Wash.

Mr. H. de Schepper,
Secretary,
Pasco, Wash.

Mr. W. L. Marshall,
Director,
Connell, Wash.

Mr. A. D. Olson,
Director,
Beverly, Wash.

Mr. Leon L. Baillie,
Director,
Mesa, Wash.

Mr. P. O. Hailey,
Director,
Eltopia, Wash.

Report due: August 1, 1941.

IX. VILLAGES

Problem No. 18.—To assist appropriate local officials and agencies in formulating plans for the orderly and effective development of existing cities and villages within the project area. To determine the optimum number of new villages for the project area and their most advantageous placement; to design for them an appropriate number of *suitable* types of expansible patterns, with due regard to various land uses (commercial, industrial, recreational, institutional, etc.), to reasonable minimum requirements for buildings, to building lines, the arrangement and width of streets, and the like; and to plan,

insofar as practicable, essential public facilities, such as lighting systems, waterworks, and sewage-disposal systems.

Investigators and advisers:

Bureau of Reclamation:

Dr. E. N. Torbert,

Field Coordinator,

Bureau of Reclamation, Ephrata, Wash.

Washington State Planning Council:

Mr. P. Hetherton,

Executive Officer,

State Planning Council, Old Capitol Building, Olympia, Wash.

Pacific Northwest Regional Planning Commission:

Maj. R. F. Bessey,

Counselor,

National Resources Planning Board, Federal Courthouse, Portland, Oreg.

Representatives of the railroads:

Mr. A. L. Sedgwick,

Chicago, Milwaukee, St. Paul & Pacific Ry., Seattle, Wash.

Mr. E. B. Duncan,

Great Northern Railway Co., St. Paul, Minn.

Mr. W. P. Stapleton,

Northern Pacific Railway, Seattle, Wash.

Mr. K. C. Miller,

Spokane, Portland & Seattle Railway System, Portland, Oreg.

Mr. Joseph W. Jarvis,

Union Pacific Railroad System, Omaha, Nebr.

Bureau of Reclamation:

Mr. F. A. Banks,

Supervising Engineer,

Bureau of Reclamation, Coulee Dam, Wash.

Federal Housing Administration:

Mr. Charles Clark,

Regional Director,

Land Planning, Federal Housing Administration, 756 South Spring Street, Los Angeles, Calif.

United States Housing Authority:

Mr. Langdon Post,

Regional Director,

United States Housing Authority, Humboldt Bank Bldg., San Francisco, Calif.

Miss Catherine Bauer,

United States Housing Authority, 2632B Hyde Street, San Francisco, Calif.

Federal Works Agency:

Mr. John M. Carmody,

Administrator,

Federal Works Agency, Washington, D. C.

Washington State College:

Mr. Paul H. Landis,

Head of Division of Rural Sociology,

Washington State College, Pullman, Wash.

Investigators—Continued.

Washington State Department of Health:

Donald G. Evans, M. D.

State Director of Health,
Seattle, Wash.

University of Washington:

Mr. H. H. Martin,

University of Washington, Seattle, Wash.

Washington State Board of Education:

Pearl Wanamaker,

Superintendent of Public Instruction, Olympia, Wash.

Report due: As soon as practicable; but not later than December 31, 1941.

X. ROADS AND OTHER TRANSPORTATION FACILITIES

Problem No. 19.—To plan desirable additions to and modifications of the road net in adjustment to the irrigation system, village sites and patterns, farm hamlets (farmstead clusters), and other features, and to prospective transportation needs.

Investigators and advisers:

Washington State Department of Highways:

Mr. C. E. Fritts,

State Department of Highways, Olympia, Wash.

County road commissioners:

Mr. Henry Denekas,

Adams County Road Commissioner, Ritzville, Wash.

Mr. Walter R. Johnson,

Adams County Road Commissioner, Hatton, Wash.

Mr. Edward F. Wahl,

Adams County Road Commissioner, Ritzville, Wash.

Mr. Clement O'Neil,

Grant County Road Commissioner, Almira, Wash.

Mr. J. B. Martin,

Grant County Road Commissioner, Quincy, Wash.

Mr. Chris Larsen

Grant County Road Commissioner, Wilson Creek, Wash.

Mr. H. L. Blanton,

Franklin County Engineer, Pasco, Wash.

Bureau of Reclamation:

Mr. H. A. Parker,

Irrigation Engineer,

Bureau of Reclamation, Ephrata, Wash.

Representatives of the railroads:

Mr. G. S. Cooper,

Chicago, Milwaukee, St. Paul & Pacific Railway, Seattle, Wash.

Mr. E. B. Duncan,

Great Northern Railway Co., St. Paul, Minn.

Mr. W. P. Stapleton,

Northern Pacific Railway Co., Seattle, Wash.

Mr. K. C. Miller,

Spokane, Portland & Seattle Railway System, Portland, Oreg.

Mr. Joseph W. Jarvis,

Union Pacific Railroad System, Omaha, Nebr.

Investigators—Continued.

Bureau of Reclamation:

Bonneville Administration:

Dr. Paul J. Raver,
Administrator,
The Bonneville Power Administration, Portland, Oreg.

Report due: Primary network, March 15, 1941; secondary and tertiary systems as soon as practicable, but not later than December 31, 1941.

Problem No. 20.—To plan desirable additions to the railroad facilities of the project area, particularly in the form of branch lines and new shipping points, in mutual adjustment with such related items as new villages, prospective industries, the probable transportation needs of the future farm population, and the road net to be planned.

Investigators and advisers:

Representatives of the railroads:

Mr. E. B. Crane,
Milwaukee, St. Paul & Pacific Railroad Co., Seattle, Wash.
Mr. E. B. Duncan,
Great Northern Railway Co., St. Paul, Minn.
Mr. W. P. Stapleton,
Northern Pacific Railway Co., Seattle, Wash.
Mr. K. C. Miller,
Spokane, Portland & Seattle Railway System, Portland, Oreg.
Mr. Joseph W. Jarvis,
Union Pacific Railroad System, Omaha, Nebr.

Washington State Department of Highways:

Mr. C. E. Fritts,
State Department of Highway, Olympia, Wash.

Bureau of Reclamation:

Mr. F. A. Banks,
Supervising Engineer,
Bureau of Reclamation, Coulee Dam, Wash.

Bonneville Administration:

Dr. Paul J. Raver,
Administrator,
The Bonneville Power Administration, Portland, Oreg.

Report due: As soon as related investigations and the nature of this problem may permit; but not later than December 31, 1941.

Problem No. 21.—What is the significance to the project area of the Columbia River as a commercial route, if improved for navigation as proposed?

Investigators:

Corps of Engineers:

Lt. Col. C. R. Moore,
Division Office,
Corps of Engineers, Portland, Oreg.

Investigators—Continued.

Pacific Northwest Regional Planning Commission:

Maj. R. F. Bessey,

Counselor, National Resources Planning Board, Federal Court-
house, Portland, Oreg.

Report due: When practicable; but not later than December 31, 1941.

XI. UNDERGROUND WATERS

Problem No. 22.—What are the essential facts with respect to the occurrence, movements, quantities, and qualities of underground waters throughout the project area? In dealing with this problem a contour map showing the depth to water at points of record is needed, and also estimates of (a) the effect of irrigation upon the water table and (b) permissible drafts on the supply in different sections.

Investigators:

United States Geological Survey, in cooperation with the State Department of Conservation and Development (under the "matching law"):

Mr. Arthur M. Piper,

Geological Survey, 606 Post Office Building, Portland, Oreg.

Mr. Ed Davis,

Director,

Department of Conservation and Development, Olympia, Wash.

Advisers:

Bureau of Reclamation:

Mr. H. A. Parker,

Irrigation Engineer,

Bureau of Reclamation, Ephrata, Wash.

Washington State Geologist:

Dr. Harold E. Culver,

Head of Department of Geology and State Geologist,

Washington State College, Pullman, Wash.

Report due: For areas of relatively early development and settlement, May 1, 1941; for the remainder of the area, as soon as practicable.

XII. RURAL AND VILLAGE ELECTRIFICATION

It has been hoped that the farms and villages of the project area would constitute in time one of the principal markets for power developed at Grand Coulee Dam. Certainly the area, as progressively settled and developed, should have every available advantage of cheap power.

Problem No. 23.—To plan the facilities (transmission lines, distribution systems, etc.) needed to bring electric energy most advantageously to the various parts of the project area as progressively opened and settled.

Investigators:

Bureau of Reclamation:

Mr. George A. Fleming,

Bureau of Reclamation, Denver, Colo.

Investigators—Continued.

Rural electrification administration:

Mr. Harry Slattery,
Administrator,

Rural Electrification Administration, 2000 Massachusetts Avenue, Washington, D. C.

Advisers:

Washington State College:

Prof. L. J. Smith,

Head of the Department of Agricultural Engineering,
State College of Washington, Pullman, Wash.

Mr. H. V. Carpenter,

Dean, College of Mechanic Arts and Engineering,
State College of Washington, Pullman, Wash.

Bonneville Power Administration:

Mr. Warren H. Marple,

Chief, Distribution Projects Section,
The Bonneville Power Administration, Portland, Oreg.

Report due: As soon as practicable; but not later than December 31, 1941.

XIII. MANUFACTURES

Problem No. 24.—What processing plants and other marketing facilities (number, type, size, and location) will be needed for efficient handling of the agricultural products of the area? How could such facilities be fitted to requirements during the early years of irrigation, and also to the mature development of the project? What other industries might be located advantageously in the parts of the project area likely to be settled relatively soon? What steps should be taken to promote or guide the development of such facilities and industries?

Investigators:

Bureau of Agricultural Economics:

Mr. Wendell T. Calhoun,

Bureau of Agricultural Economics, 719 Welch Building,
Spokane, Wash.

Washington State Planning Council:

Mr. P. Hetherton,

Executive Officer,

State Planning Council, Old Capitol Building, Olympia, Wash.

Pacific Northwest Regional Planning Commission:

Maj. R. F. Bessey,

Counselor,

National Resources Planning Board, Federal Courthouse,
Portland, Oreg.

Department of Agriculture—Western Regional Research Laboratory:

Dr. T. L. Swenson,

Director,

Western Regional Research Laboratory, Albany, Calif.

Dr. W. B. Van Arsdell,

Western Regional Research Laboratory, Albany, Calif.

Mr. H. C. Diehl,

Western Regional Research Laboratory, Albany, Calif.

Investigators—Continued.

Representatives of the railroads:

- Mr. Dan B. Noble,
Chicago, Milwaukee, St. Paul & Pacific Railroad Co., Spokane,
Wash.
Mr. E. B. Duncan,
Great Northern Railway Co., St. Paul, Minn.
Mr. W. P. Stapleton,
Northern Pacific Railway Co., Seattle, Wash.
Mr. Joseph W. Jarvis,
Union Pacific Railroad System, Omaha, Nebr.

Bonneville Administration:

- Dr. Paul J. Raver,
Administrator,
The Bonneville Power Administration, Portland, Oreg.

Washington State College:

- Mr. G. E. Thornton,
Professor of Mechanical Engineering,
State College of Washington, Pullman, Wash.
Prof. A. E. Drucker,
Dean of the School of Mines and Geology,
State College of Washington, Pullman, Wash.

Bureau of Reclamation:

University of Washington:

- Prof. H. K. Benson,
University of Washington, Seattle, Wash.

Farm Credit Administration:

- A. C. Adams,
President,
Spokane Bank for Cooperatives, Spokane, Wash.

Report due: October 1, 1941.

NOTE.—Agriculture and industry within the project area appear to have interdependent possibilities of importance; seemingly each of them may help to support the other. Creameries and processing plants, for example, might help effectively to integrate farm and village economy in some sections. Agriculture might produce some of the raw materials needed by local or regional industries.

XIV. RECREATIONAL RESOURCES AND NEEDS

Problem No. 25.—To locate and plan the lay-out and improvement of rural parks and recreational grounds within the project area. Attractive spots, quickly and conveniently accessible, and without high agricultural utility insofar as practicable, seem to be indicated. Village parks and playgrounds are covered in Problem No. 18.

Investigators:

Bureau of Reclamation:

- Mr. F. A. Banks,
Supervising Engineer,
Bureau of Reclamation, Coulee Dam, Wash.

Investigators—Continued.

National Park Service:

Mr. C. E. Greider,

State Superintendent,

National Park Service, 601 Sheldon Building, San Francisco,
Calif.

Washington State Department of Highways:

Mr. C. E. Fritts,

State Department of Highways, Olympia, Wash.

Washington State Planning Council:

Mr. P. Hetherton,

Executive Officer,

State Planning Council, Old Capitol Building, Olympia, Wash.

Washington State College:

Dr. Paul H. Landis,

Head of Division of Rural Sociology,

State College of Washington, Pullman, Wash.

University of Washington:

Prof. H. H. Martin,

University of Washington, Seattle, Wash.

Washington State Parks Committee:

Mr. W. G. Weigle,

Superintendent of State Parks, Seattle, Wash.

Report due: June 1, 1941.

Problem No. 26.—To formulate plans to promote the recreational use of the reservoir above Grand Coulee Dam and its shorelands, not in isolation but in effective interrelationship with the other diversified recreational assets of the Inland Empire and of contiguous areas, from all significant local, regional, and national points of view.

Investigators:

National Park Service:

Mr. C. E. Greider,

State Superintendent,

National Park Service, 712 Spaulding Building, Portland, Oreg.

United States Forest Service:

Mr. F. V. Horton,

United States Forest Service, Portland, Oreg.

United States Bureau of Biological Survey:

Dr. Victor B. Scheffer,

105 Anderson Hall, University of Washington, Seattle, Wash.

United States Bureau of Fisheries:

Mr. Fred J. Foster,

United States Bureau of Fisheries, 2725 Mont Lake Boulevard,
Seattle, Wash.

Corps of Engineers:

Col. Richard Park,

Division Office,

Corps of Engineers, Portland, Oreg.

Office of Indian Affairs:

Mr. Melvin L. Robertson,

Office of Indian Affairs, Colville Indian Agency, Nespelem,
Wash.

Investigators—Continued.

Pacific Northwest Regional Planning Commission:

Maj. R. F. Bessey,
Counselor,
National Resources Planning Board, Federal Courthouse, Portland, Oreg.

Washington State Parks Committee:

Mr. W. G. Weigle,
Superintendent of State Parks, Seattle, Wash.

Washington State Department of Conservation and Development:

Mr. Edward Davis,
Director,
Department of Conservation and Development, Olympia, Wash.

Washington State Land Commission:

Mr. Jack Taylor,
Washington State Land Commissioner, Olympia, Wash.

Washington State Game Commission:

Mr. Bernard T. McCauley,
Director,
State Game Commission, 1320 Smith Tower, Seattle, Wash.

Washington State Planning Council:

Mr. P. Hetherton,
Executive Officer,
State Planning Council, Old Capitol Building, Olympia, Wash.

Washington State Department of Health:

Mr. Donald G. Evans, M. D.,
State Director of Health, Seattle, Wash.

Washington State Department of Highways:

Mr. C. E. Fritts,
State Department of Highways, Olympia, Wash.

Representative Chambers of Commerce:

Mr. James A. Ford,
Managing Secretary,
Spokane Chamber of Commerce, Spokane, Wash.

Mr. W. G. Mathews,
President,
Ephrata Chamber of Commerce, Ephrata, Wash.

Bureau of Reclamation:

Mr. F. A. Banks,
Supervising Engineer,
Bureau of Reclamation, Coulee Dam, Wash.

Report due: When practicable; but not later than December 31, 1941.

XV. RURAL COMMUNITY CENTERS

Problem No. 27.—To plan the location (first for the northern and the southernmost parts of the area), and, insofar as practicable, the improvement of sites for rural schools, churches, community halls, market centers, athletic field (compare problems No. 18 and No. 25) and the like. Selections might well be made of more sites than are likely to be utilized, with the idea that some of them will be released as unneeded after the settlement of the sections involved.

Investigators:

Bureau of Agricultural Economics:

Dr. Carl C. Taylor,

Bureau of Agricultural Economics, Washington, D. C.

Washington State Planning Council:

Mr. P. Hetherton,

Executive Officer,

State Planning Council, Old Capitol Building, Olympia, Wash.

Washington State Board of Education:

Pearl Wanamaker,

Superintendent of Public Instruction, Olympia, Wash.

Washington State Department of Highways:

Mr. C. E. Fritts,

State Department of Highways, Olympia, Wash.

Bureau of Reclamation:

Mr. F. A. Banks,

Supervising Engineer,

Bureau of Reclamation, Coulee Dam, Wash.

Washington State College:

Dr. Paul H. Landis,

Head of Division of Rural Sociology,

State College of Washington, Pullman, Wash.

University of Washington:

Prof. R. G. Tyler,

University of Washington, Seattle, Wash.

Report due: September 1, 1941.

XVI. GOVERNMENTAL ORGANIZATION, PUBLIC WORKS PROGRAMMING AND FINANCING

The project area will in time require greatly augmented public services and facilities. Consequently, a considerable change in the structure of local governmental units probably is indicated. An appraisal of existing county, school district, and other governmental units should be made with reference to the prospective needs of the whole area and the contiguous territory. In due time, steps should be taken to organize or reorganize such units as may be needed, according to a plan which will provide maximum service at lowest feasible cost, and which will avoid the chaotic patterns of overlapping and conflicting taxing jurisdictions that have developed in some areas.

Problem No. 28.—To develop, in the light of all relevant factors, the most advantageous pattern of local governmental units to meet prospective public needs. This should be done with due regard to programming and financing public improvements in such a way as to eliminate or minimize the possibility of an excessive tax burden.

Investigators:

Washington State Planning Council:

Mr. P. Hetherton,

Executive Officer,

State Planning Council, Old Capitol Building, Olympia, Wash.

Investigators—Continued.

Washington State Department of Conservation and Development:

Mr. Edward Davis,
Director,
Department of Conservation and Development, Olympia, Wash.

Federal Works Agency:

Mr. John M. Carmody,
Administrator,
Federal Works Agency, Washington, D. C.

Bureau of Agricultural Economics:

Mr. M. M. Kelso,
Bureau of Agricultural Economics, Department of Agriculture,
Washington, D. C.

University of Washington:

Dr. Donald H. Webster,
Executive Secretary,
Bureau of Governmental Research, University of Washington,
Seattle, Wash.

Pacific Northwest Regional Planning Commission:

Maj. R. F. Bessey,
Counselor,
National Resources Planning Board, Federal Courthouse, Portland, Oreg.

Adviser:

National Resources Planning Board:

Col. Henry M. Waite,
Chairman,
Public Works Committee, National Resources Planning Board,
North Interior Building, Washington, D. C.

Report due: September 1, 1941.

NOTE.—The study of this problem should be closely correlated with the work of investigating agencies dealing with various other problems, especially No. 18 and No. 27.

WILLIAM E. WARNE,
*Chief, Division of Information,
Bureau of Reclamation, Washington, D. C.*

HARLAN H. BARROWS,
*Planning Consultant, Bureau of Reclamation,
University of Chicago, Chicago, Ill.*

